

WHAT IS CLAIMED IS:

1. DNA expression construct for immunization against infections by leishmania, characterized by the immunizing polynucleotide sequences having the form of expression constructs consisting of covalently closed linear deoxyribonucleotide molecules, which comprise a linear double stranded region, the single strands forming said double stranded region being linked by short single stranded loops of deoxyribonucleic acid nucleotides, said double strand forming single strands consisting only of the coding sequence under control of a promoter and a terminator sequence operable in the animal that is to be vaccinated, and the DNA expression construct being covalently linked to one or more oligopeptides for increasing of the transfection efficacy.

2. DNA expression construct according to claim 1, where the expression construct encodes one or more leishmania antigens.

3. DNA expression construct according to claim 1, where the expression construct encodes the p36 LACK antigen.

4. DNA expression construct according to claim 1, where the oligopeptide consists of 3 to 30 amino acids, at least half of which are members of the group consisting of arginine and lysine.

5. DNA expression construct according to claim 4, where the oligopeptide comprises the amino acid sequence PKKKRKV (proline - lysine - lysine - lysine - arginine - lysine - valine).

6. Use of the DNA expression construct according to claim 1 for the production of a vaccine for the treatment of leishmaniasis infectious diseases.

7. Vaccine for the treatment of leishmaniasis infectious diseases containing the DNA expression construct according to claim 1.

8. DNA expression construct according to claim 2, where the expression construct encodes the p36 LACK antigen.

9. Use of the DNA expression construct according to claim 2 for the production of a vaccine for the treatment of leishmaniasis infectious diseases.

10. Use of the DNA expression construct according to claim 3 for the production of a vaccine for the treatment of leishmaniasis infectious diseases.

11. Use of the DNA expression construct according to claim 4 for the production of a vaccine for the treatment of leishmaniasis infectious diseases.

12. Use of the DNA expression construct according to claim 5 for the production of a vaccine for the treatment of leishmaniasis infectious diseases.

13. Use of the DNA expression construct according to claim 8 for the production of a vaccine for the treatment of leishmaniasis infectious diseases.

14. Vaccine for the treatment of leishmaniasis infectious diseases containing the DNA expression construct according to claim 2.

15. Vaccine for the treatment of leishmaniasis infectious diseases containing the DNA expression construct according to claim 3.

16. Vaccine for the treatment of leishmaniasis infectious diseases containing the DNA expression construct according to claim 4.

17. Vaccine for the treatment of leishmaniasis infectious diseases containing the DNA expression construct according to claim 5.

18. Vaccine for the treatment of leishmaniasis infectious diseases containing the DNA expression construct according to claim 8.